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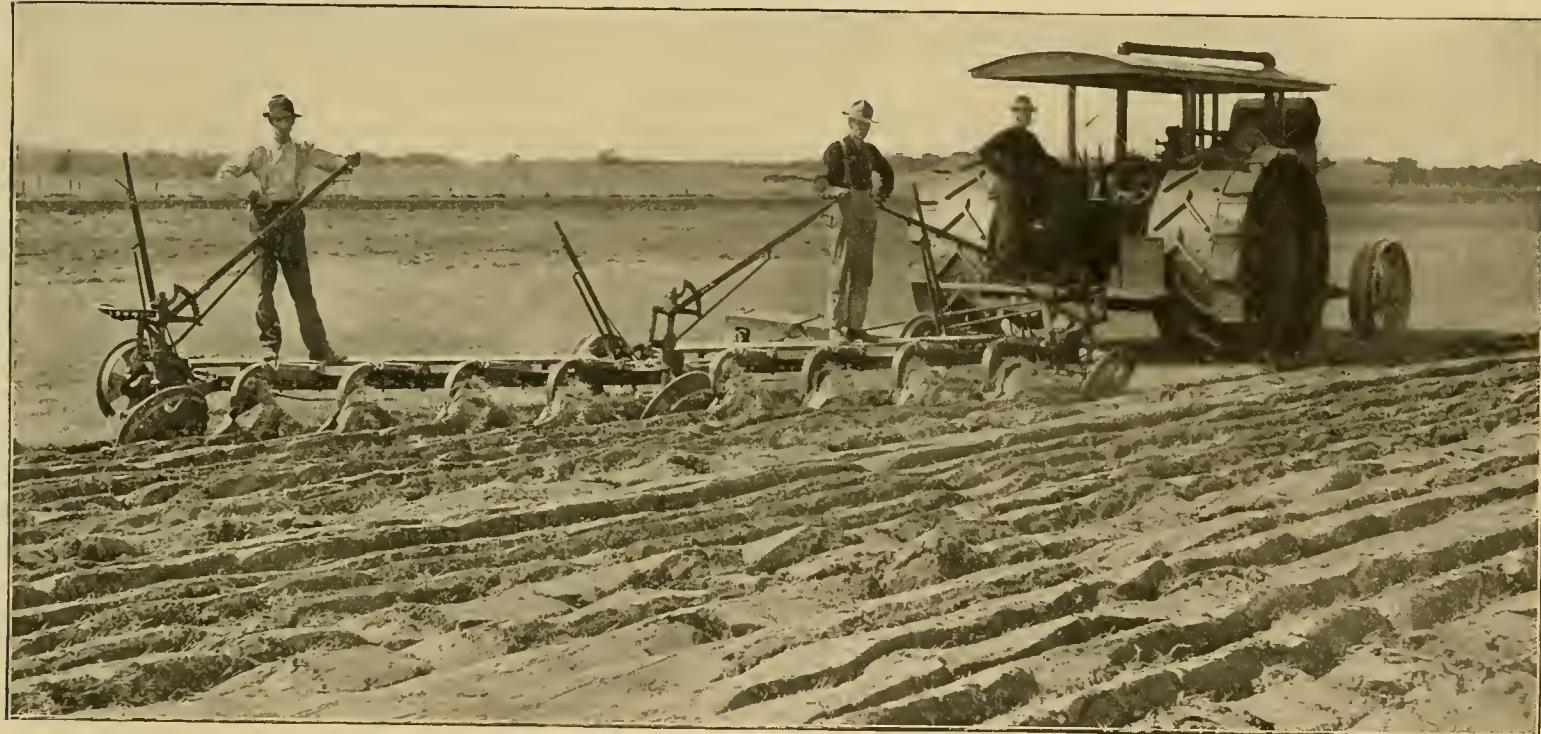
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# I H C MOGUL GASOLINE TRACTOR

Double Cylinder Opposed, 45-H. P.



45-H. P. I H C Mogul Gasoline Tractor, owned by John McQueen, Kirkland, Ill., pulling two 4-furrow gangs  
Drive wheel equipped with 12-inch tire extensions

**International Harvester Company of America**  
(Incorporated)

Chicago

U S A

# I H C Mogul 45-Horse Power Gasoline Tractor

## Two-Cylinder Opposed

**Engines**—Opposed double cylinders are used on this tractor. This insures perfect balance and maximum power.

**Cylinders**—Cylinders and jacket walls are cast integral. Ample space is given to allow free circulation of the cooling water.

**Cylinder Heads**—Bolted to cylinder. The water jackets of the head and the cylinder register.

**Valves**—Poppet type, ground in their seats and held by springs. Valves and seats may be removed by loosening only one bolt and without removing cylinder head or disturbing any connections. The inlet valve check keeps intake valves automatically closed when the exhaust valve is held open in cases where speed is above normal. Insures fuel economy.

**Governor**—Spring governed, fly-ball type.

**Starting**—A relief cam relieves the compression when starting the engine. This makes starting easy.

**Piston**—Trunk type, extra long, turned and carefully ground to size. Provided with lap-joint piston rings.

**Connecting Rod**—Drop forged, carefully machined to size. Provided with a divided box on the crank end and adjustable split babbitt bushings for the wrist pin bearing.

**Crank Shaft**—Forged shaft of liberal proportions and turned to exact size.

**Main Bearings**—Special high grade babbitt, reinforced with stiff metal grid. Machine finished to gauge, of liberal length and thickness, and extra heavy.

**Fly-Wheel**—Provided with split hub, keyed to the crank shaft and clamped by means of bolts running through the hub.

**Gasoline Pump**—Plunger type, ball valves, operated from cam shaft. No escape of gasoline past the plunger.

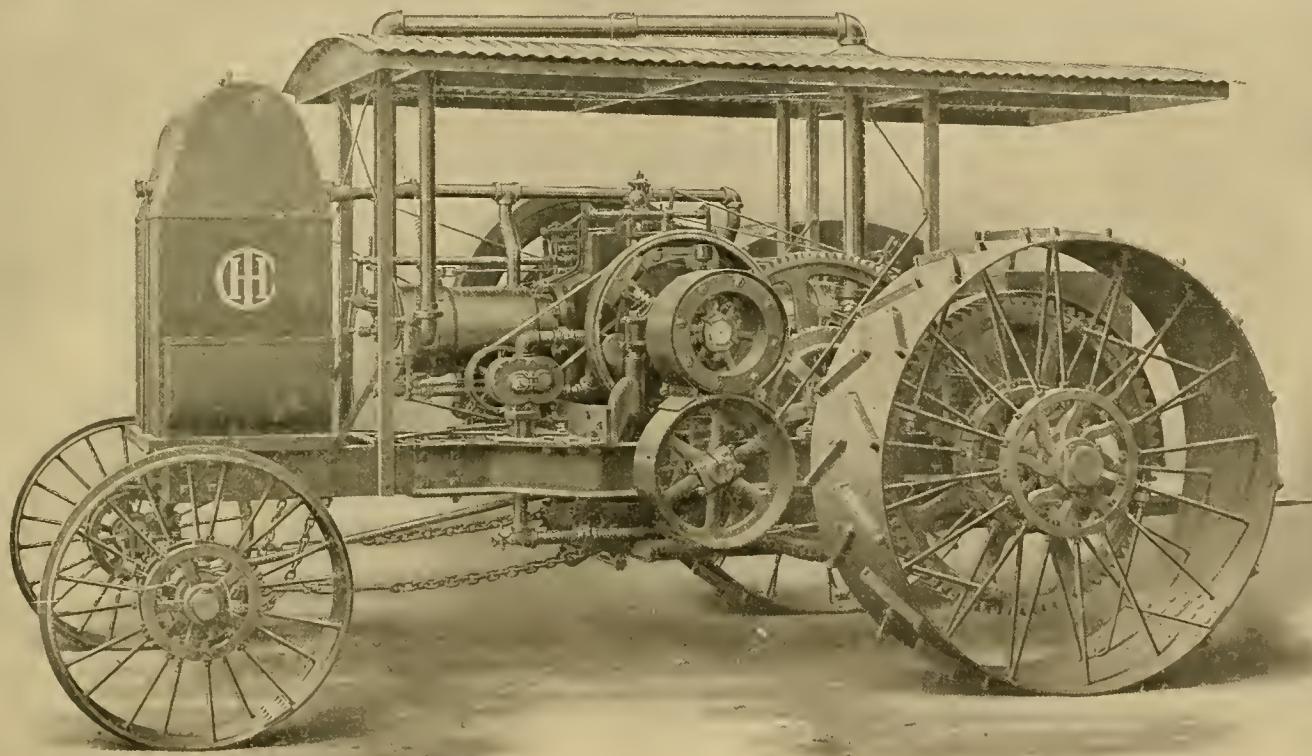
**Mixer**—Nozzle inside of air pipe. Controlled by needle valve. Fuel is atomized before it enters the cylinder. Mixer is provided with overflow pipe to carry excess fuel back to the tank.

**Ignition**—Make-and-break ignitor. Spark control is convenient to the operator. Electric current from batteries and auto sparker.

**Oiling System**—Includes two separate systems. Mechanical oiler for truck and pump oiler for engine. Mechanical oiler furnishes oil for the three countershafts and the two main driving gears. Oil is supplied to engine by means of a pump which sprays oil into the crank case and lubricates the crank shaft, connecting rod, cylinder, and cam shaft. Oil returns to oil tank for continuous use.

**Speed Regulating Device**—Provides for a variation of from 200 R. P. M to 375 R. P. M.

**Mounting**—The engine is mounted on a substantial steel channel frame. The sills of this frame are reinforced in the rear by the manner in which the axle is secured. Extra heavy axle castings are used. The base of the engine is securely bolted to steel channel sills. The front axle is arched and trussed by two heavy steel rods. The rear axle is 5 inches in diameter and is continuous—extending through both drive wheels. The weight of the frame is so distributed that maximum tractive power is produced.



**Left side view—15-H. P. opposed double cylinder**

**I H C Mogul Gasoline Tractor**

**Gears**—Power is transmitted to the drive wheels from the countershaft by two sets of pinions and gears. The pinion on the crank shaft drives the differential gear on the countershaft, and the two pinions on the ends of the countershaft drive the large gears on the drive wheels. In this way, power is equally distributed to both drive wheels. The crank shaft pinions and large differential gear are cut to insure maximum wearing qualities. The countershaft is secured to the frame by heavy bearing castings. Particular attention is called to this construction, because it insures such rigidity that the gears can never get out of alignment and cut. A good shield is provided for all gears. Oil is supplied to the bearings by mechanical oiler.

**Removable Differential Pinion**—The differential pinion may be removed and replaced without removing or disturbing any other parts.

**Friction Reverse**—The friction reverse makes it possible to throw the reverse while the engine is moving, without danger of stripping the gear teeth. This construction also eliminates an intermediate gear.

**Clutch**—Only one friction clutch is used to transmit power from the crank shaft to the gears. This clutch has three shoes with large friction blocks which engage the metal surface of the pulley. There is no danger of breakage because the large coiled springs, one of which is placed behind each clutch shoe, take up sudden jerks and permit the gears to be started slowly, no matter how suddenly the clutch is thrown in.

**Operating Levers**—There are two operating levers, one for forward speed, and one for reverse. These levers are located within easy reach of the operator.

**Drive Wheels**—The drive wheels are 72 inches in diameter with a 24-inch face. The hubs have a 24-inch bearing. These drive wheels are well lugged and provision is made for attaching extra lugs. A 12-inch tire extension is furnished on special order which, when attached to these wheels, gives a 36-inch surface.

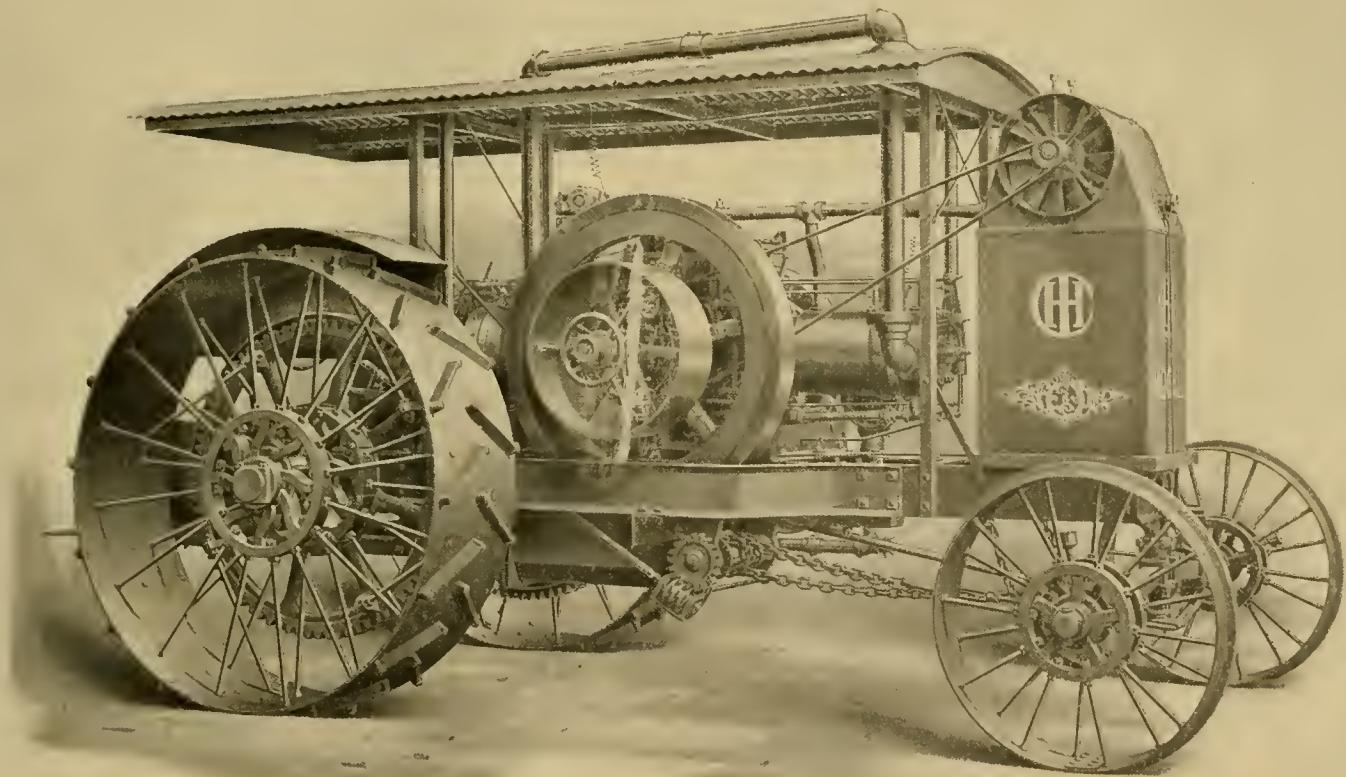
**Cooling Arrangement**—The engine is water cooled. The water is forced through the jacket and up through the cooling tower by means of a rotary pump. As the water descends through the cooling tower over a series of horizontal galvanized steel plates, air is forced up through it by means of a suction fan. Engine and tank may be easily drained at night to prevent freezing.

**Oil and Gasoline Tanks**—The oil and gasoline tanks are constructed of 10-gauge plate steel instead of galvanized iron which is commonly used.

**Accessibility**—All parts are easily accessible and can be reached without removing a number of other parts.

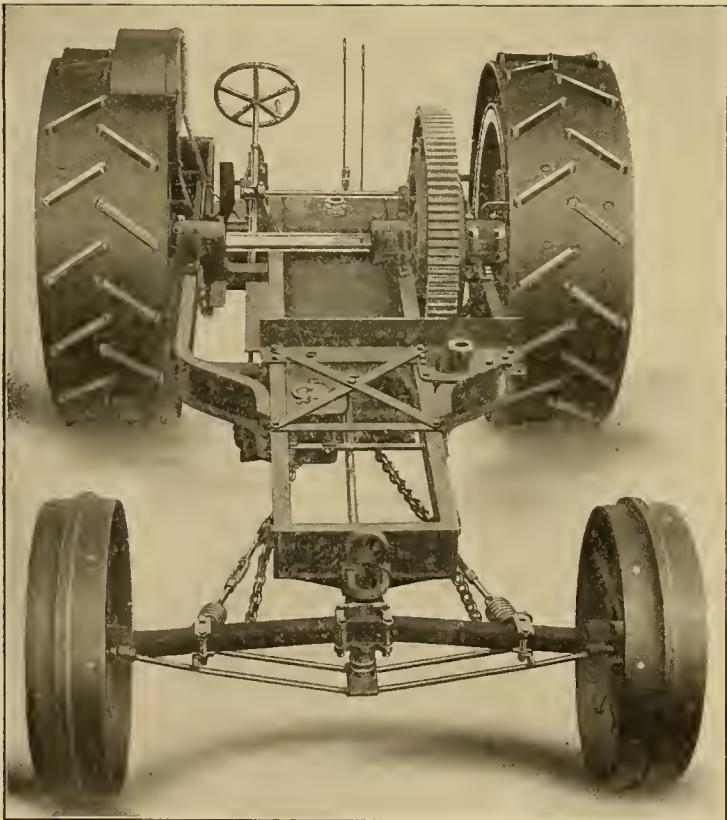
**Conveniences**—The operator's platform is large and roomy. All operating levers are within easy reach. The filling pipe is readily accessible. The auto sparker is conveniently located out of the way of all gears. Right hand drive wheel is provided with large shield to protect the operator.

**Equipment**—Swinging draw-bar, mud lugs, auto sparker, and speed changing devices are part of the regular equipment



Right side view—15-H. P. opposed double cylinder

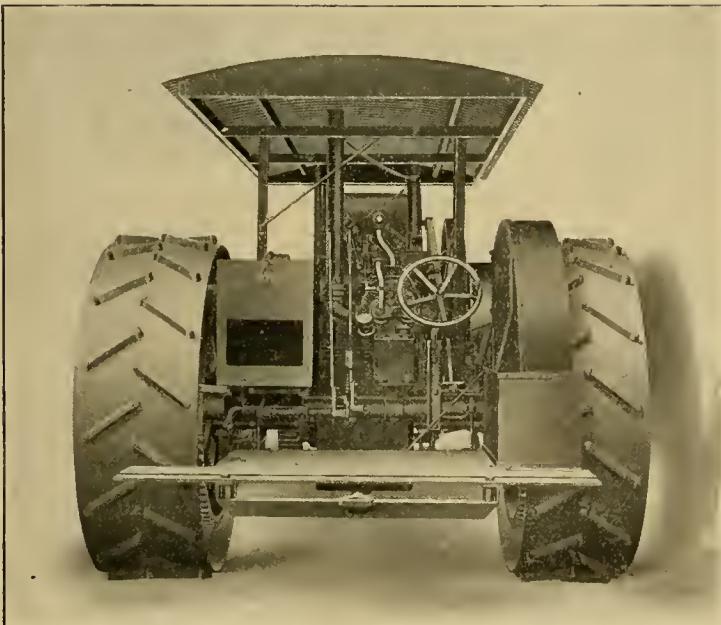
**I H C Mogul Gasoline Tractor**



Mounting for I H C Mogul 45-horse power gasoline tractor. Note the substantial construction of all parts of this mounting



Front view of I H C Mogul 45-horse power tractor, showing cooling tower and friction reverse. Note the arched and well-trussed front axle



Rear view of I H C Mogul 45-horse power gasoline tractor. The platform is large, giving ample room for operator to work. Operating levers and steering wheel are within easy reach. A large shield protects operator from right hand drive wheel.

## Specifications for I H C Mogul 45-Horse Power Opposed Double Cylinder Tractor

Horse power: 45

Weight: 18,500 pounds

Wheel base: 11 feet

Extreme width over rear wheels: 110"

Diameter of rear wheels: 72"

Face of rear wheels: 24"

Diameter of front wheels: 40"

Face of front wheels: 10"

Speed of tractor: 2 to 2 $\frac{1}{4}$  miles per hour

Extreme length: 18 feet

Extreme height: 9' 10" over exhaust pipe

### Attachments

Clutch pulley: 28" diameter x 10" face is regular

12" tire extensions can be furnished for rear wheels, on special order



I H C Mogul 15-horse power tractor pulling an 8-furrow gang, and 20-horse power Mogul tractor pulling a 4-furrow gang



I H C Mogul 45-horse power tractor pulling a Case 12-furrow 14" breaker engine gang on the Elk Valley farm, Larimore, N. D. Conditions on this farm are such that the engine will handle a 12-furrow gang. Ordinarily, an 8-furrow gang is the largest plow which should be used with a tractor of 45 brake horse power











